

Trend Analysis, Mark Twain, and Changes in Idaho Water Quality

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Water-quality trend analysis is important and ubiquitous, yet there are many challenges to proper application and interpretation. This presentation reviews some cautions for trend analysis using examples from streamflow trends, a cautionary tale from Mark Twain, and recent trend studies.

These issues are important because a major drawback of many water-quality trend analyses is the use of a straight-line trend that is prone to extrapolation and struggles to account for the effect of current or antecedent streamflow on water quality. The presentation then conceptually describes the newest methods in trend analysis to deal with these issues. Finally, the presentation shows water-quality trends for Idaho from a U.S. Geological Survey national trends study.

Trends in Idaho are interpreted and compared to trends in the rest of the country. In particular, atrazine, its degradation product deethylatrazine, and nitrate have interesting stories in Idaho and across the Nation.